

PHILIPPINE INITIATIVES ON DISASTER-RELATED STATISTICS

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Philippine Statistics Authority

Regional Workshop on Measuring Disaster Risks and Impacts

28 October 2025



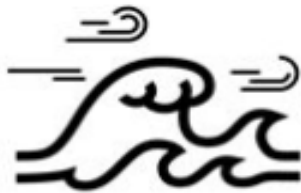
Outline of Presentation

- Introduction
- Sources and Methods
- Results
- Challenges
- Ways Forward

Philippines: Disaster Risk Profile



TYPHOON



STORM



FLOOD



LANDSLIP



EARTHQUAKE



ERUPTION



ABNORMAL HEAT



FIRE

2025 WORLD RISK INDEX

RANK	COUNTRY	INDEX
1st	PHILIPPINES	46.56

“Most disaster-prone country in the world for **17 straight years** (2009-2025)”



About PSA

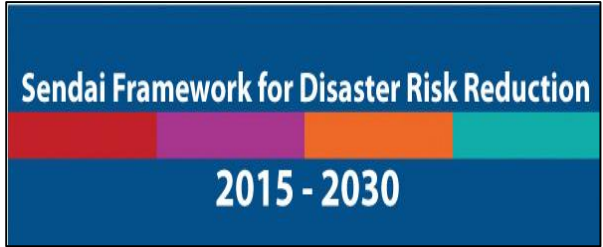
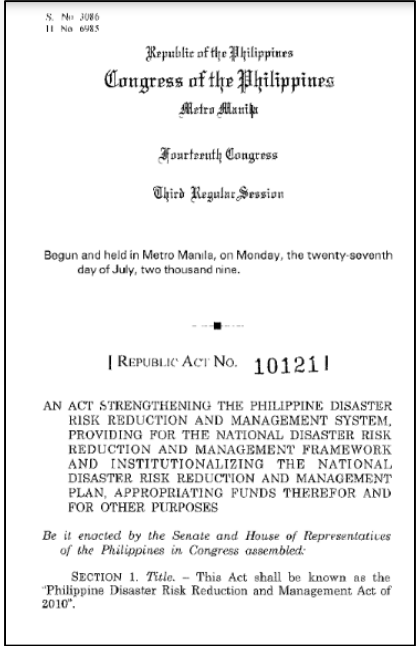
The **Philippine Statistics Authority (PSA)** is the **central statistical authority on statistics, coordinator of the Philippine Statistical System (PSS)**, administrator of civil registration functions, and Philippine Identification System (PhilSys).



The **Environment and Natural Resources Accounts Division (ENRAD)** of the **Macroeconomic Accounts Service** have the following functions:

- Development and compilation of environmental-economic accounts
- Collection and maintenance of statistics and indicators on environment, climate change, and disasters such as the **Disaster Risk Reduction Expenditure Accounts** and **Compendium of Philippine Environment Statistics (CPES) – Component 4: Extreme Events and Disasters**
- Coordination and technical support to statistical inter-agency committees, task forces, and technical working groups on environment statistics

Policy Relevance



- The compilation of disaster-related statistics provide data that support disaster preparedness, climate change adaptation, economic resilience, environmental protection, and public safety programmes and policies.

Policy Relevance

PENCAS Act

An Act institutionalizing the Philippine Ecosystem and Natural Capital Accounting System (PENCAS), mandating its use in policy and decision-making, designating the agencies responsible for its implementation, providing institutional arrangements among responsible agencies, and appropriating funds therefor.

Signed into law last **22 May 2024**

S. No. 2439
H. No. 4443

Republic of the Philippines
Congress of the Philippines
Metro Manila
Nineteenth Congress
Second Regular Session

Began and held in Metro Manila, on Monday, the twenty-fourth day of July, two thousand twenty-three.

[REPUBLIC ACT NO. 11995]

AN ACT INSTITUTIONALIZING THE PHILIPPINE ECOSYSTEM AND NATURAL CAPITAL ACCOUNTING SYSTEM, MANDATING ITS USE IN POLICY AND DECISION-MAKING, DESIGNATING THE AGENCIES RESPONSIBLE FOR ITS IMPLEMENTATION, PROVIDING INSTITUTIONAL ARRANGEMENTS AMONG RESPONSIBLE AGENCIES, AND APPROPRIATING FUNDS THEREFOR

Be it enacted by the Senate and House of Representatives of the Philippines in Congress assembled:

SECTION 1. *Short Title.* – This Act shall be known as the “Philippine Ecosystem and Natural Capital Accounting System (PENCAS) Act”.

SEC. 2. *Declaration of Policy.* – It is hereby declared the policy of the State to:

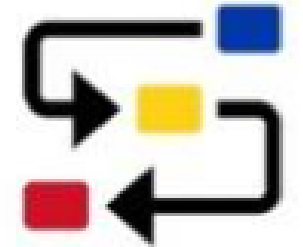
(a) Recognize natural ecosystems as an integral part of our patrimony and heritage;

Philippine Ecosystem and Natural Capital Accounting System



The PENCAS shall be based on **internationally accepted environmental-economic accounting frameworks**.

The PENCAS framework shall include, among others, **a list of the officially designated statistics** on the **depletion, degradation, and restoration of natural capital**; **environmental protection expenditures**; **pollution and quality of land, air and water**; **environmental damages**; and **adjusted net savings**.



supports
policy-making



provides a
system



serves as a
framework



provides tools
and measures



ecosystem
services valuation

Disaster Risk Reduction Expenditure Accounts

- The Disaster Risk Reduction (DRR) Expenditure Accounts cover activities undertaken to preserve and protect society, the economy, and the environment from disasters.
- It allows us to monitor the resources allocated to DRR and demonstrate how investing in DRR saves lives and resources from a cost-benefit economic point of view.



Scope and Aggregations

- Special release covers DRR expenditure of public sector from 2015 to 2022
- Data are presented by National Government Agencies (NGAs) and Thematic Areas
- Unit in Philippine Peso (PhP)

Data Sources



Commission on Audit (COA)

- Income and expense statements by department (national, local, GOCCs)
- Official Development Assistance (ODA) Audit Report



Department of Budget and Management (DBM)

- National Expenditure Program



Office of Civil Defense (OCD), National Disaster Risk Reduction Management Council

- Situational Reports
- Number of affected (dead, missing, injured)



Philippine Statistics Authority (PSA)

- National Accounts
- FIES
- Census/Survey of Establishments

Methodology: Public Sector

1. Process the National Expenditure Program (NEP) and estimate DRR activities by agency.
2. Identify the thematic area (Disaster Prevention, Disaster Mitigation, Disaster Management, and Disaster Recovery) of each activity.
3. Estimate the DRR expenditure.

$$\text{NGA DRR Expenditure} = \sum \frac{\text{Budgeted DRR activities per Agency}}{\text{NEP Total less NDRRMF, LGUs, and QRF}} * \text{Total National Expenditure}$$

$$\text{DRR Expenditure} = \text{NGA DRR Expenditure} + \text{NDRRMF} + \text{LGUs} + \text{ODA}$$

4. Compute the share of DRR expenditure to Government Final Consumption Expenditure (GFCE)

$$\text{Share of DRR Expenditure to GFCE} = \frac{\text{DRR Expenditure}}{\text{Total National Expenditure}} * \text{GFCE}$$

5. Compute the Total DRR expenditure

$$\text{Total DRR Expenditure} = \frac{\text{DRR Expenditure per Agency}}{\text{DRR Expenditure}} * \text{Share of DRR Expenditure to GFCE}$$

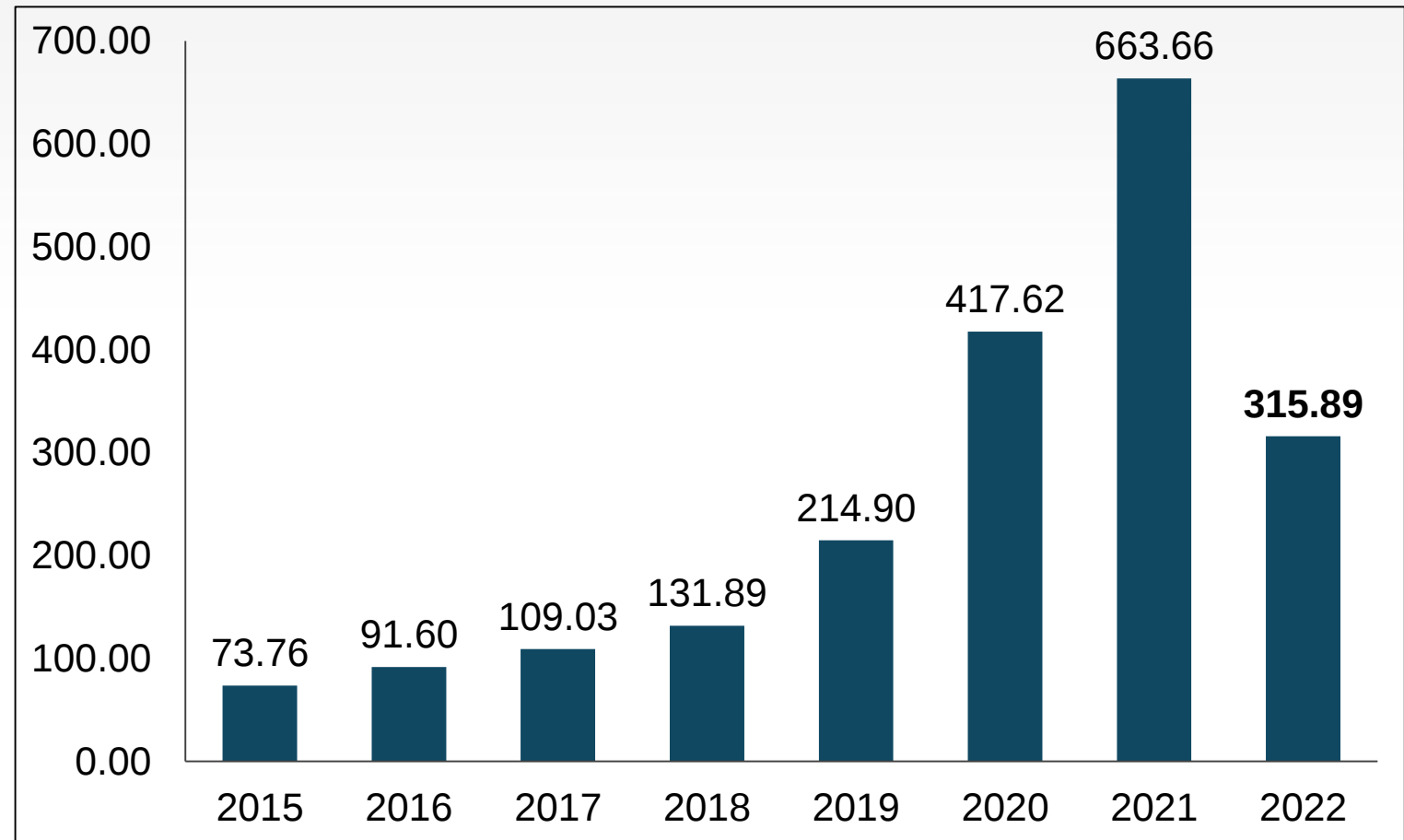
6. Consolidate the results by agency and thematic areas.

Summary of Results

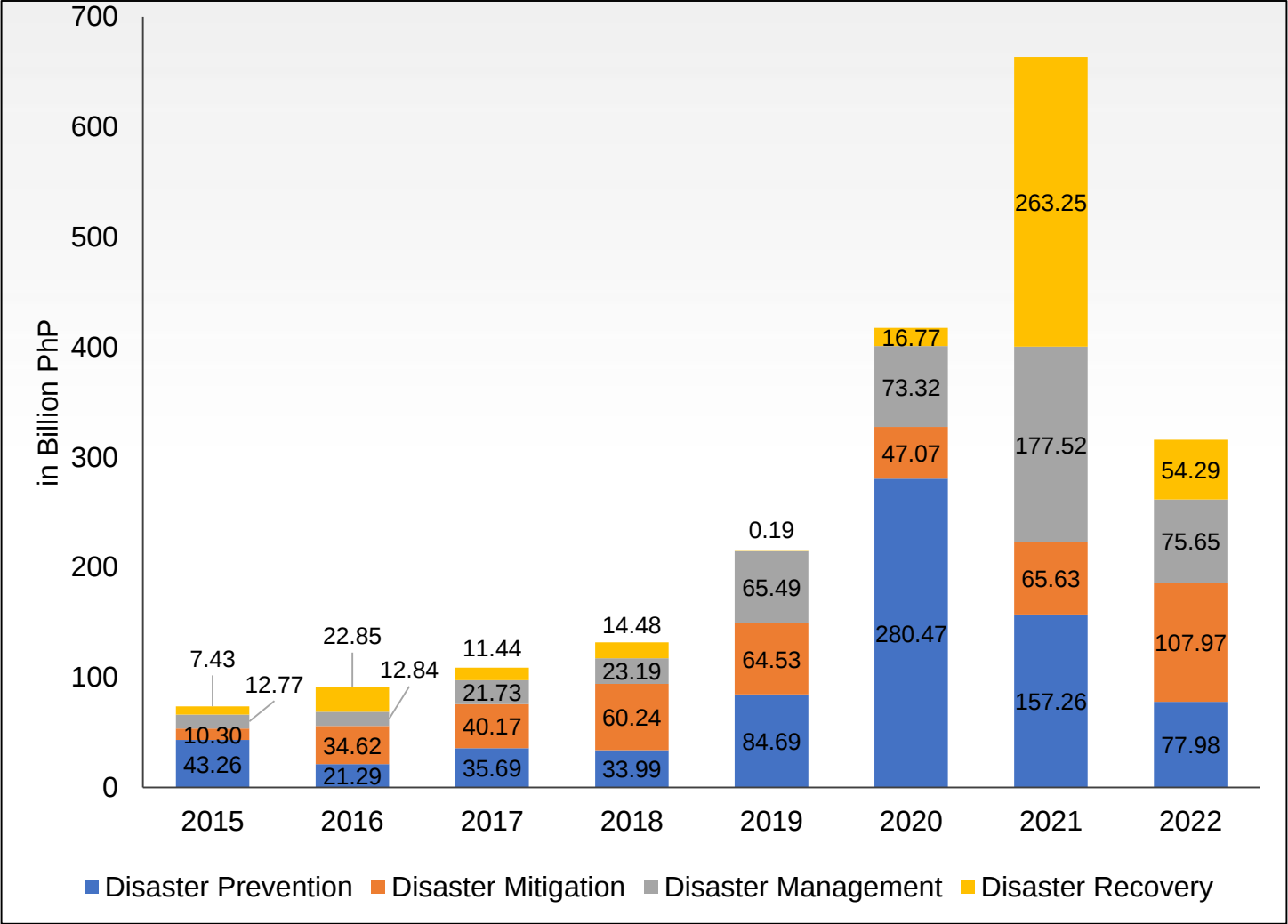
Total DRR Expenditure of Public Sector in billion PhP, 2015 to 2022

How much is the total
government spending for
DRR?

*The total DRR expenditure
decreased by 52.4 percent
from PhP 663.66 billion in 2021
to PhP 315.89 billion in 2022.*

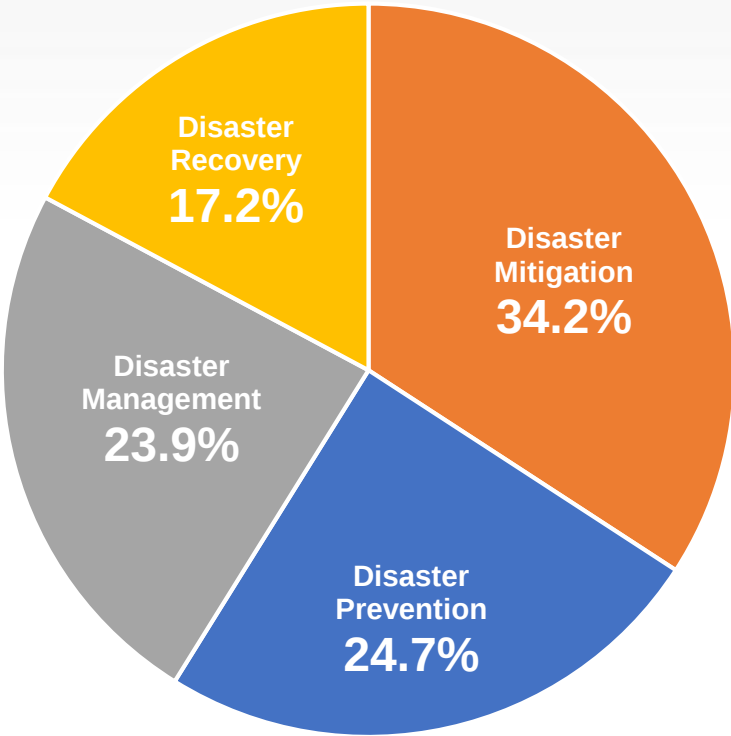


Summary of Results



Total DRR Expenditure by Thematic Areas (in Billion PhP), 2015 to 2022

Which disaster thematic area does the Philippines spends the highest?

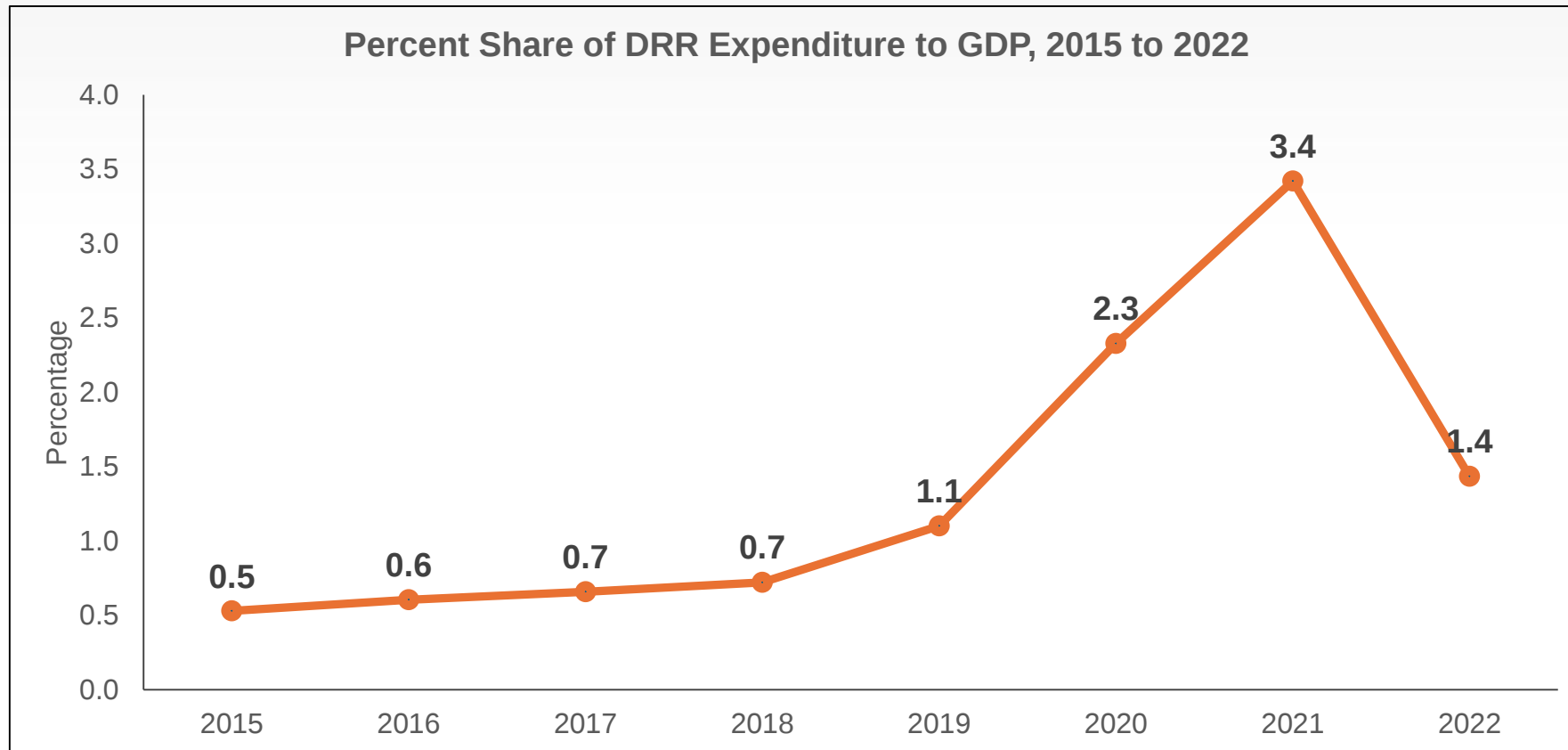


Percent Share by Thematic Areas, 2022

Summary of Results

How much does reducing disaster risk contribute to the Philippine economy?

In 2022, the share of total DRRE to GDP is 1.4 percent.



OUTPUTS



REPUBLIC OF THE PHILIPPINES
PHILIPPINE STATISTICS AUTHORITY

SPECIAL RELEASE

Disaster Mitigation Posted the Highest DRR Expenditure at PhP 107.97 Billion in 2022

Date of Release: 30 November 2023
Reference No. 2023-650 - 216

Disaster risk reduction (DRR) undertaken to preserve and protect the environment from disasters. DRR uses the resources allocated to DRR to save lives and resources from a disaster.

The DRR-characteristics activities areas, namely, disaster prevention, disaster management, and disaster recovery.

Disaster Prevention
Disaster prevention includes activities to prevent new disaster risks. This includes disaster events and risk prevention in or at a community.

Disaster prevention expenditure was PhP 157.26 billion in 2021 or recorded expenditure was in 2022 (Figure 1 and Table 4.1)



THE FRAMEWORK OF THIS COMPILATION, THE DISASTER-RELATED STATISTICS FRAMEWORK (DRSF), IS A GUIDELINE FOR STATISTICS DEVELOPED BY THE UNITED NATIONS ECONOMIC AND SOCIAL COMMISSION FOR ASIA AND THE PACIFIC (ESCAP). THIS INCLUDES DESCRIPTIONS FOR A BASIC RANGE OF DISASTER-RELATED STATISTICS AND METHODOLOGICAL GUIDANCE AND TOOLS FOR IMPLEMENTATION. DRSF IS DESIGNED FOR USE BY NATIONAL AGENCIES TO HARMONIZE STATISTICS IN SUPPORT OF MONITORING THE SENDAI FRAMEWORK FOR DISASTER RISK REDUCTION 2015-2030 AND THE SUSTAINABLE DEVELOPMENT GOALS.¹

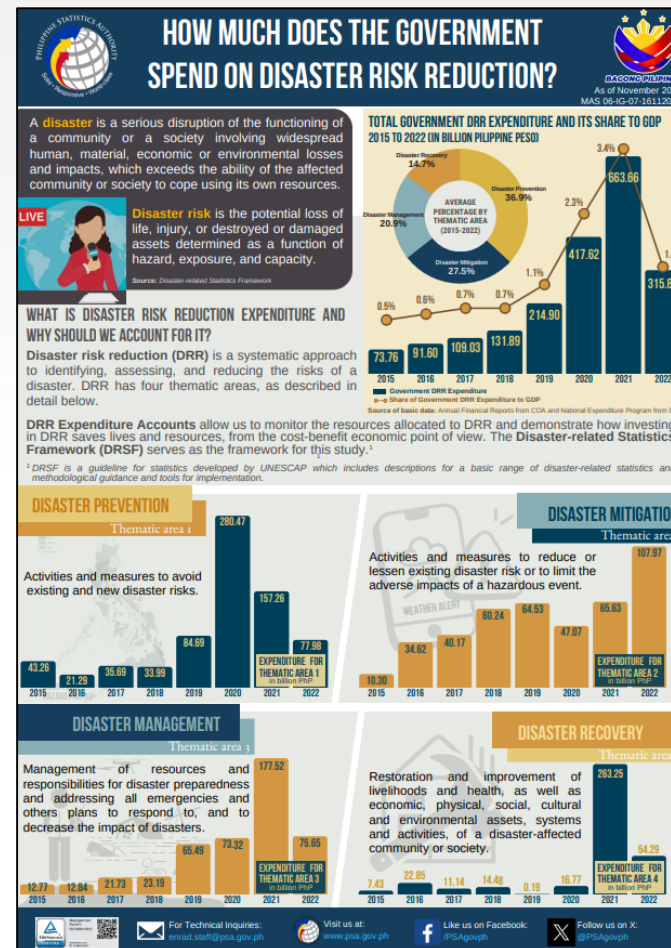
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Disaster Related Statistics Framework (DRSF), 2018

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Release Date: 30 November 2023
<https://psa.gov.ph/statistics/environmental-accounts/node/1684061629>

CPES Component 4: Extreme Events and Disasters

- This component organizes statistics on the occurrence of extreme events and disasters and their impacts on human well-being and the infrastructure of the human subsystem.
- This component has two subcomponents: natural extreme events and disasters, and technological disasters.

Data Collected and Source



1. Type of natural extreme events and disasters and technological disaster
2. People affected: number of people killed, injured, and affected
3. Damages due to natural extreme events and disasters and technological disasters

Scales of Hazard Events

The categories and their criteria are as follows:

a. Large-scale

- There is a declaration of State of Calamity on the National or Regional level.
- There is a call for international humanitarian assistance and / or intervention from international partners.
- There is a need to conduct National Post-Disaster Needs Assessment (PDNA) or Post-Conflict Needs Assessment (PCNA)

b. Medium-scale

- At least two (2) provinces are affected.
- There is a need for augmentation from the national to the regional level.
- There is a need for intervention / assistance from in-country liaison team (e.g. ASEAN, UN)
- There is a need to conduct Regional PDNA or PCNA

c. Small-scale

- Local incidents (e.g. local fire incidents, isolated thunderstorms)

OUTPUTS



Republic of the Philippines
Philippine Statistics Authority



PRESS RELEASE

A Total of 225 Small-Scale Natural Hazard Occurred in the Philippines in 2024

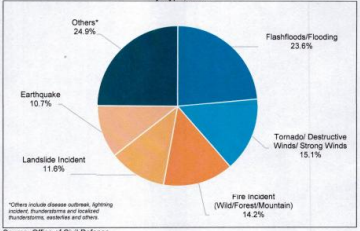
Date of Release: 10 July 2025
Reference No. 2025-SSO-090

The Compendium of Philippine environment and related socio-economic government agencies and other Extreme Events and Disasters compiles statistics on the occurrence of their impacts on human well-being and the infrastructure of the human subsystem.

The National Disaster Risk Reduction and Management Center published the 2024 edition of the Compendium of Philippine Environment Statistics (CPES) and Guidelines (SOPG 2024). The CPES uses terminologies such as hazard, extreme events, and disasters. The previous classification of disasters as either natural or human-induced is derived from the Situational Reports (SITREPs) and follows the scales of hazard and disaster.

According to the Office of Civil Defense, small-scale natural hazard incidents frequently reported incidents were 53 occurrences or 23.6 percent of the total, or strong winds, or fire incidents, which comprised 32 occurrences or 14.2 percent. (Figure 4.1 and Table 4.19)

Figure 4.1. Percent Distribution of Small-Scale Natural Hazard Occurrences by Type, 2024



*Others include disease outbreak, lightning, volcanic, foundation and structural, flood/drought, and others.

Source: Office of Civil Defense

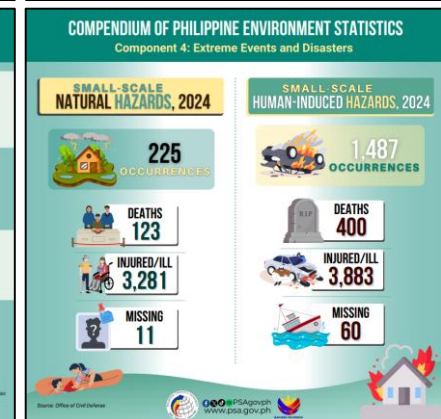
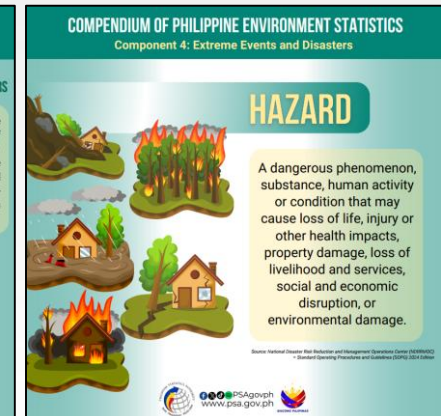
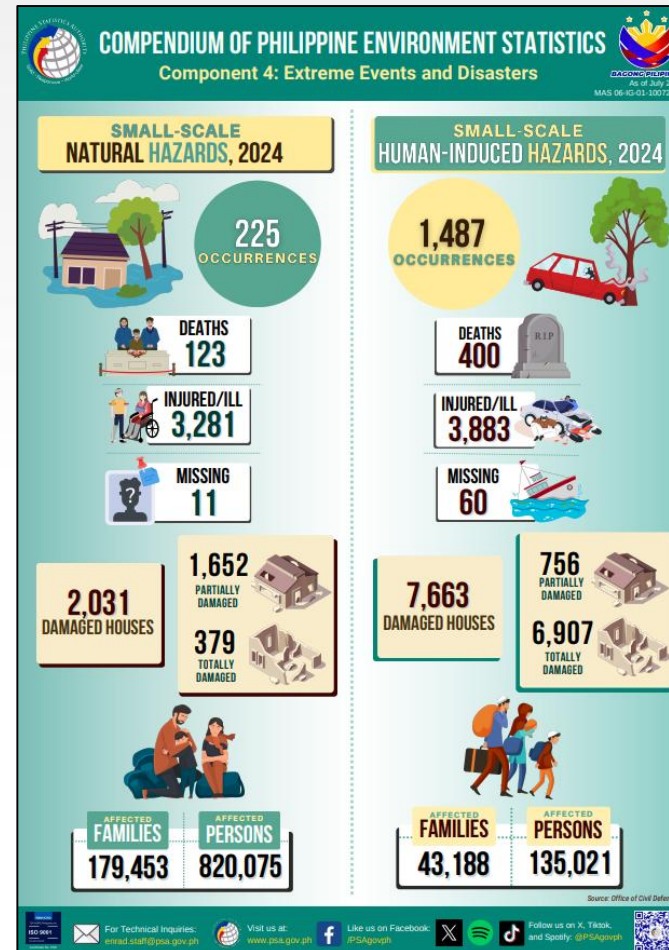
On the other hand, a total of 20 medium-scale incidents were reported in the Incident Reports in 2024. Among these, Shear Line were the most frequent with 4 occurrences or 20.0 percent. (Table 4.20)

Moreover, medium-scale incidents from Situational Reports reported a

Meanwhile, two medium-scale human-induced hazards were identified in 2024. One was a maritime incident reported in a Situational Report, while the other involved power outages recorded in an Incident Report. (Table 4.17 and 4.18)

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Release Date: 10 July 2025

<https://psa.gov.ph/statistics/environment-statistics/node/1684077700>

Challenge

Issues and Challenges	Resolution
<i>DRR Expenditure Accounts</i>	
Data availability of private sector's (i.e., households, NPISHs, NFCs, FCs) DRR expenditure	• In the Family Income and Expenditure Survey, part of the questionnaire is the expenditure of households on DRR (i.e., disaster kits).

Ways Forward

DRR Expenditure Accounts

1. Alignment to the Global Disaster-Related Statistics Framework (G-DRSF).
2. Conduct research on additional parameters to be used in the estimation of private sector's DRR expenditure.

CPES Component 4: Extreme Events and Disasters

1. Adopt the scales of hazard events based on the Standard Operating Procedures and Guidelines of National Disaster Risk Reduction And Management Operations Center – OCD.

Ways Forward

Assistance to Local Government Units of the Philippine Statistical Research and Training Institute

1. Conduct a research study on risk profile assessment for a 6th level municipality in Batangas.
2. LGU Assistance on use of CBMS data, i.e. how to incorporate the disaster risk data in their Climate and Disaster Risk Assessment (CDRA).



Thank you

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